Request for Approval with Assurances
Montana Big Sky Pathways (Programs of Study)

The Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) calls for states to offer "career and technical programs of study," known as Big Sky Pathways in Montana, as an option to students and their parents when planning for and completing future coursework. These programs, at a minimum, must:

- Incorporate and align secondary and postsecondary education elements;
- Include academic and CTE content in a coordinated, non-duplicative progression of courses;
- Offer the opportunity, where appropriate, for secondary students to acquire postsecondary credits, and
- Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree.

Assurances:
By my signature on this form, I assure that the proposed Big Sky Pathway submitted for approval by this high school/college satisfies the 10 stated requirements. For approval, all 10 requirements must be checked.

<table>
<thead>
<tr>
<th>Name of Big Sky Pathway (Cluster level):</th>
<th>Info Tech</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of High School:</td>
<td>Alberton High School</td>
</tr>
<tr>
<td>Names of Secondary Lead Teacher and Counselor:</td>
<td>Kent Haub and Kara Cox</td>
</tr>
<tr>
<td>The Lead Secondary Teacher will be contacted if OPI has questions about this request:</td>
<td></td>
</tr>
<tr>
<td>Lead Teacher’s email address:</td>
<td><a href="mailto:Kenthaub@hotmail.com">Kenthaub@hotmail.com</a></td>
</tr>
<tr>
<td>Lead Teacher’s phone number:</td>
<td>406-22-4411</td>
</tr>
<tr>
<td>Name of College:</td>
<td>UM-CET</td>
</tr>
<tr>
<td>Name of College Program:</td>
<td>Computer Technology</td>
</tr>
<tr>
<td>Name of College Lead Faculty Member:</td>
<td>Tom Gallagher</td>
</tr>
</tbody>
</table>

REQUIREMENTS FOR APPROVAL

1. Includes all state and local graduation requirements
2. Identifies the appropriate secondary CTE, academic, and recommended elective courses offered by this high school which will prepare the student for college-level courses without remediation
3. Outlines a non-duplicative sequence of courses from grades 9-12 and from secondary to postsecondary education
4. Prepares students for entry into a postsecondary program or apprenticeship
5. Leads to an Industry-recognized postsecondary credential, degree or employment
6. Includes appropriate state standards and/or industry skills standards identified standards used: Computers I and II
7. Aligns with an AAS program offered by a Montana college (college of technology, community college, tribal college, MSU-Northern)
8. Links with a web-based guidance delivery system such as MCIS if using something other than MCIS, please indicate:
9. When applicable, dual enrollment opportunities have been identified.
10. When applicable, Advanced Placement, IB courses and CTE START (statewide articulations) have been identified.

High School Principal’s Signature: ___________________________ Date: 3/4/11

H.S. Advisory Committee Member’s Signature: ___________________________ Date: 3/10/11

College Chief Academic Officer’s Signature: ___________________________ Date: 3/21/10

College Lead Faculty Member’s Signature: ___________________________ Date: 3/21/11

Please submit this Request for Approval form and a copy of the Big Sky Pathway Proposal to:
OPI, Career and Technical Education, P.O. Box 202501, Helena, Montana 59620-2501

OPI Specialist Approval: ___________________________ Date of Approval: 4/28/11

OCHE Approval: ___________________________ Date of Approval: 5/17/11

Both the college and the high school will receive a signed copy when the BSP is approved.
**HIGH SCHOOL:** Alberton School

**COLLEGE:** University of Montana College of Technology

**COLLEGE DEGREE PROGRAM:** AAS Computer Technology, Information Systems Management option

### Cluster Overview:
Information Technology careers encompass entry level, technical, and professional careers related to the design, development, support and management of hardware, software, multimedia, and systems integration services.

### Pathway Options:
- Network Systems
- Information Support and Services
- Web and Digital Communications
- Programming and Software Development

### Occupation Examples:

For a complete listing, go to: http://online.onetcenter.org/find/career?c=11&q=Go

### SUGGESTED HIGH SCHOOL COURSES

<table>
<thead>
<tr>
<th>Grade</th>
<th>Graduation Requirements</th>
<th>Workforce/2-Year College Prep</th>
<th>CTE and/or Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th</td>
<td></td>
<td>English, Science, Math, History, Health/PE</td>
<td>Band, Art, Woodworking/Drafting, Spanish I, Astronomy, Consumer Economics, Business Law,</td>
</tr>
<tr>
<td></td>
<td>4-Year MT College/Univ Prep (Rigorous Core)</td>
<td>English 9, Algebra I, Earth Science, Health/PE, World History, Language/Computer Science, Visual/Performing Arts, Career/Technical Education</td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>10th</td>
<td></td>
<td>English, Math, Biology, Health/PE</td>
<td>Woodworking/Drafting, Spanish I, Astronomy, Spanish II, Industrial Arts/CAD, Environmental Science, Art, Consumer Economics, Business Law, Band</td>
</tr>
<tr>
<td></td>
<td>4-Year MT College/Univ Prep (Rigorous Core)</td>
<td>English 10, Geometry, Health/PE, Biology, Language/Computer Science, Visual/Performing Arts, Career/Technical Education</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-Year MT College/Univ Prep (Rigorous Core)</td>
<td>English 11, US History, Algebra II, Language/Computer Science, Visual/Performing Arts, Career/Technical Education</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12th</td>
<td></td>
<td>English 12, Government</td>
<td>Careers, Art, General Music, Physics, Chemistry, Publishing, Industrial Arts/CAD, Consumer Economics, Business Law, Band</td>
</tr>
<tr>
<td></td>
<td>4-Year MT College/Univ Prep (Rigorous Core)</td>
<td>English 12, Government, Advanced Math, Language/Computer Science, Visual/Performing Arts, Career/Technical Education</td>
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</tbody>
</table>

**Recommended CTE Cluster Foundation Courses:**
- Computer Science I
- Computer Science II

**Other Recommended CTE Courses:**
- Computer Science III
- Computer Science IV

**CTE Student Organization(s):**
- BPA

### ADVANCED LEARNING OPPORTUNITIES

**High School to College/Career Linkages**

**CTE START courses:**
- Computer Science I, II, III, IV (CAPP 120, Introduction to Computers)

**Advanced Placement or IB courses:**
- Montana Digital Academy

**Dual Enrollment courses:**
- MSU-Great Falls, UM-COT, Montana Digital Academy

**Online courses:**
- Montana Digital Academy

**Other:**
<table>
<thead>
<tr>
<th>Semester 1</th>
<th>Math</th>
<th>English</th>
<th>Major</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>13—</td>
<td>M 115</td>
<td>WRIT 101</td>
<td>CSCI 105 (CRT 111)</td>
<td>BUS 103S</td>
</tr>
<tr>
<td>Semester 1</td>
<td>Probability and Linear Mathematics</td>
<td>College Writing I</td>
<td>Computer Fluency</td>
<td>Principles of Business</td>
</tr>
<tr>
<td>13—</td>
<td>CSCI 172 (CRT 172)</td>
<td>CSCI 215E (CRT 222E)</td>
<td>CSCI 260 (CRT 112)</td>
<td>COM 160A</td>
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<tr>
<td>Semester 2</td>
<td>Introduction to Computer Modeling</td>
<td>Social &amp; Ethical Issues in C.S.</td>
<td>Operating Systems</td>
<td>Oral Communications</td>
</tr>
<tr>
<td>14—</td>
<td>CSCI 120 (CRT 231)</td>
<td>CSCI 240 (CRT 275)</td>
<td>Databases with MS SQL Server</td>
<td>Programming with Visual Basic I</td>
</tr>
<tr>
<td>Semester 1</td>
<td>Programming with Visual Basic II</td>
<td>System Analysis and Design</td>
<td></td>
<td>ITS 150 (CRT 151)</td>
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<tr>
<td>14—</td>
<td>CSCI 221 (CRT 203)</td>
<td>CSCI 240 (CRT 275)</td>
<td>Databases with MS SQL Server</td>
<td>CCNA 1: Exploration</td>
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<tr>
<td>Semester 2</td>
<td>System Analysis and Design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14—</td>
<td>ITS 280 (CRT 285T)</td>
<td>ITS 280 (CRT 289T)</td>
<td>ITS 280 (CRT 290T)</td>
<td>ACTG 101</td>
</tr>
<tr>
<td>Semester 2</td>
<td>Computer Repair and Maintenance</td>
<td>Professional Certification</td>
<td>Internship</td>
<td>Accounting Procedures I</td>
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<tr>
<td>14—</td>
<td>ITS 291 (CRT 289T)</td>
<td>ITS 298 (CRT 290T)</td>
<td>ITS 210 (CRT 210T)</td>
<td>CRT 263</td>
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<tr>
<td>Semester 2</td>
<td>ITS 210 (CRT 210T)</td>
<td>Network Operating System – Desktop</td>
<td></td>
<td>Web Design and Development</td>
</tr>
</tbody>
</table>

**MONTANA POSTSECONDARY OPPORTUNITIES**

Montana University System Degree and Program Inventory: [http://www.homepage.montana.edu/~mus/dginy/](http://www.homepage.montana.edu/~mus/dginy/)

Your Guide to Montana’s Certificate and Associate Degree Programs: [http://mus.edu/twoyear/YourGuide.html](http://mus.edu/twoyear/YourGuide.html)

<table>
<thead>
<tr>
<th>Colleges of Technology:</th>
<th>Community Colleges:</th>
<th>Tribal Colleges:</th>
<th>Four Year Colleges/Universities:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLCOT—Billings; GFCC—Great Falls; HCOT—Helena; TECHCOT—Butte; UMCOT—Missoula; GCP—Bozeman</td>
<td>DCC—Glendive; FVCC—Kalispell; MCC—Missoula City</td>
<td>BFCC—Browning; CDIC—Lame Deer; FBCC—Hardin; FPCO—Poplar; LBHC—Crow Agency; SCC—Box Elder; SJC—Pablo</td>
<td>MSU—Bozeman; MSUB—Billings; MSUN—Havre; TECH—Butte; UM—Missoula; UMW—Dillon</td>
</tr>
</tbody>
</table>

**MILITARY**
- Requires diploma or GED
- 17 with parental consent, 18 without

**PROFESSIONAL CERTIFICATE**
- Requires diploma or GED
- Less than 30 credits; little/no general ed credits
- Complete in one year or less

**APPRENTICESHIP**
- Requires diploma or GED
- Must be at least 18
- Minimum 2,000 hours of supervised experience

**CERTIFICATE OF APPLIED SCIENCE**
- Requires diploma or GED
- 30-45 credits; limited general education credits
- Complete in one year or less

Air Force, Air Guard, Army, Coast Guard, Marines, and Navy

For more information: [http://todaysmilitary.com](http://todaysmilitary.com)

See the MT Dept of Labor website for more information: [http://wsh.dti.mt.gov/apprenticeship/default.asp](http://wsh.dti.mt.gov/apprenticeship/default.asp)

Computer Assistant — HCOT, TECHCOT, GFCC
Computer Desktop/Network Support — FPCO
Computer Networking — BLCOT, TECHCOT, GFCC, UMW
Computer Science/Technology — BFCC
Computer Skills Specialist — HCOT
Computer Support — UMCOT
Programming Technology — FPCO
Web Technology/Design — DCC
| ASSOCIATE'S OF APPLIED SCIENCE DEGREE | Computer Desktop/Network Support — BLCOT, SKC  
| Computer Graphics — MCC  
| Computer Information Systems — UMCOT, MSUN,  
| Computer Networking — HCOT, UMCOT, TECHCOT, GFCOT, MCC, FPCC  
| Computer Science/Technology — FPCC, BFCC  
| Computer Systems Tech — BLCOT  
| Computer Technical Support Specialist — DCC  
| Information Technology/Systems — FVCC  
| Microcomputer Specialist/Technology — GFCOT  
| Programming Technology — HCOT, BLCOT  
| Web Technology/Development/Design — HCOT, TECHCOT, GFCOT, FVCC |
| ---------------------------------------- | Computer Engineering — MSU, SKC  
| Network Technology — TECH  
| Computer Science — MSU, UM  
| Computer Info Systems — MSUN  
| Information Systems — UM  
| Information Technology — SKC |

- Requires diploma or GED  
- 60-72 credits; includes 15-25 general ed credits  
- Complete in two years (if prepared academically in math and English)

| BACCALAUREATE DEGREE | Requires 4-year college prep for admission  
| 128 credits (approximately) | Complete in four years  

*Degree and Program Inventory above may not be all inclusive*